

CLAIMS

1. A payload monitoring system for a vehicle, comprising:
 - a first adjustable spring device;
 - a first pressure transducer that generates a first pressure signal based on a pressure of said first spring device; and
 - 5 a controller that determines a payload of said vehicle based on said first pressure signal.
2. The payload monitoring system of claim 1 wherein said first spring device is adjusted pneumatically.
3. The payload monitoring system of claim 2 further comprising:
 - a first sensor generating a position signal; and
 - a first compressor that adjusts said first spring device based
 - 5 on said position signal.
4. The payload monitoring system of claim 1 wherein said first adjustable shock absorber is adjusted hydraulically.
5. The payload monitoring system of claim 4 further comprising:
 - a first sensor generating a position signal; and
 - a first hydraulic pump that adjusts said first spring device
 - 5 based on said position signal.
6. The payload monitoring system of claim 1 further comprising:
 - a second spring device; and
 - a second pressure transducer that generates a second
 - 5 pressure signal based on a pressure of said second spring device,

wherein said controller determines a payload of said vehicle based on said first and second pressure signals.

7. The payload monitoring system of claim 6 wherein said first and second spring devices are adjusted pneumatically.

8. The payload monitoring system of claim 7 further comprising:

a second sensor generating a position signal; and
a compressor that adjusts said first and second spring

5 devices based on said position signal.

9. The payload monitoring system of claim 6 wherein said first and second spring devices are adjusted hydraulically.

10. The payload monitoring system of claim 9 further comprising:

a second sensor generating a position signal; and
a hydraulic pump that adjusts said first and second spring

5 devices based on said position signal.

11. The payload monitoring system of claim 1 wherein said controller indicates said payload to an operator.

12. The payload monitoring system of claim 1 wherein said controller signals a warning if said payload is greater than a threshold payload.

13. A method of monitoring a payload of a vehicle,
comprising:
detecting a payload change within said vehicle;
adjusting a spring device to compensate for said payload
5 change;
generating a pressure signal based on a pressure of said
spring device; and
calculating a payload value based on said pressure signal.
14. The method of claim 13 further comprising informing an
operator of said payload value.
15. The method of claim 13 further comprising:
comparing said payload value to a threshold value; and
warning an operator if said payload value is greater than said
threshold value.
16. The method of claim 13 wherein said step of detecting a
payload change includes detecting a change in vehicle position.
17. The method of claim 13 further comprising:
initiating a delay period if a payload change is detected; and
confirming said payload change upon expiration of said delay
period.
18. The method of claim 13 wherein said step of adjusting a
spring device includes adjusting hydraulic pressure supplied to said
spring device.
19. The method of claim 13 wherein said step of adjusting a
spring device includes adjusting pneumatic pressure supplied to said
spring device.

20. The method of claim 13 wherein a pressure sensor generates said pressure signal.

21. The method of claim 13 further comprising generating a position signal of said vehicle wherein said step of adjusting a spring device to compensate is based on said position signal.

22. The method of claim 13 further comprising:
generating a position signal of said vehicle; and
refining said payload value based on said position signal.

23. A method of monitoring a payload of a vehicle,
comprising:
detecting a payload change within said vehicle;
adjusting a spring device to compensate for said payload
5 change;
generating a pressure signal based a pressure of said spring
device;
calculating a payload value based on said pressure signal;
informing an operator of said payload value;
10 comparing said payload value to a threshold; and
warning an operator if said payload value is greater than said
threshold value.

24. The method of claim 23 wherein said step of detecting a payload change includes detecting a change in vehicle position.

25. The method of claim 23 further comprising:
initiating a delay period if a payload change is detected; and
confirming said payload change upon expiration of said delay
period.

26. The method of claim 23 wherein said step of adjusting a spring device includes adjusting hydraulic pressure supplied to said spring device.

27. The method of claim 23 wherein said step of adjusting a spring device includes adjusting pneumatic pressure supplied to said spring device.

28. The method of claim 23 wherein a pressure sensor generates said pressure signal.

29. The method of claim 23 further comprising generating a position signal of said vehicle wherein said step of adjusting a spring device to compensate is based on said position signal.

30. The method of claim 23 further comprising:
generating a position signal of said vehicle; and
refining said payload value based on said position signal.